



REMARKS

These remarks are in response to the Office Action dated October 2, 2002, which has a shortened statutory period for response set to expire January 2, 2003. A three-month extension,  
5 to expire April 2, 2003, is requested in a petition filed herewith.

Claims

Claims 1-47 are pending in the above-identified application. Claims 1-47 are rejected over prior art. Claims 1 and 39 are amended, and Claims 2-38 and 40-47 remain as filed.  
10 Reconsideration is requested.

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**APR 14 2003**

**Technology Center 2100**

Rejections Under 35 U.S.C. § 112

Claims 2-4, 6, 7, 9, 10, 13, 14, and 19-38 are rejected under 35 U.S.C. § 112, second paragraph. The Examiner writes:

15 Claims 2-4, 6, 7, 9, 10, 13, 14, 19-38 recites the limitation "said steps" on pages 15-19. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 is amended herein to now recite (in part): "said method comprising the steps of."  
The newly added language provides antecedent basis for "said steps" in Claims 2-4, 6, 7, 9, 10,  
20 13, 14, and 19-38, which all depend either directly or indirectly from Claim 1.

For the above reasons Applicants request reconsideration and withdrawal of the rejections under 35 U.S.C. § 112.

Rejections Under 35 U.S.C. § 102

25 Claims 1-47 are rejected under 35 U.S.C. § 102 (a) as being anticipated by U.S. Patent No. 5,935,249 (Stern et al.).

Applicants respectfully traverse.

The standard for anticipation is set forth in M.P.E.P. § 2131 as follows:

5       “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Claim 1:

10       With respect to Claim 1, the Examiner writes:

15               Regarding independent claims 1 and 39, (exemplary independent claim 1). Stern discloses *a method for managing connections between at least one client* [items 201 and 202] *and a server* [item 204], *said method comprising: establishing a network connection with one of said clients via a network* [see Stern, Col. 5, lines 9-20, Col. 6 lines 14-67] *and receiving a communication from said client via said network connection* [see Stern, Col. 7, lines 15-67, Col. 10, lines 14-67] *and establishing a bus connection with said server via internal bus of said server* [see Stern Col. 12, lines 13-67] *and forwarding said client communication to said server via said bus connection* [see stern, Col. 6, lines 47-67] ... .

Applicants appreciate the Examiner’s clear statement of the grounds for rejection.

Citations to the reference for each element was particularly helpful and appreciated.

25       Applicants respectfully traverse the rejection of Claim 1, because the cited reference does not disclose “establishing a bus connection with said origin server via an internal bus of said server,” as recited in Claim 1. Rather, the reference discloses a Java Enabled Network Interface Device 401 coupled to the bus of a host computer, not to the bus of a server. [see Stern, Figs. 2-4] The cited reference discloses a method and apparatus for securely controlling a local network device from a network, and providing network services to a host computer without requiring a network connection. [see Stern, Col. 2, lines 41-67] This result is achieved by embedding a processor 403 and code 404 in a network interface device 401 of **a client machine**, that facilitates control of the network interface device 401 by a remote server 204, 424, 710, and allows the network interface device 401 to act as a proxy for the server when the local device is disconnected from the network.

35       The cited reference also fails to disclose “forwarding said client communication to said origin server via said bus connection,” as recited in Claim 1. Instead, Stern discloses

communications to servers 204, 424, 620, and 708 occurring over networks 210, 440, 615, and 720, respectively. Therefore, Stern does not anticipate Claim 1.

While Applicants believe that original Claim 1 is distinguishable over the cited reference for the reasons provided above, Claim 1 is also amended herein to clarify the relationships between the interface device, the client(s), and the server. In particular, Claim 1 now recites: “In an interface device operatively coupled to an internal bus of an origin server.” The meaning of the term “origin server” is well known in the art to include any server that is hosting the resource (i.e., the data) that the client is requesting.

For at least the above reasons, Applicants respectfully request reconsideration and withdrawal of the rejection of Claim 1 under 35 U.S.C. §102(a). Further, Claims 2-38 depend either directly or indirectly from Claim 1, and are therefore distinguished from the cited prior art for at least the reasons provided above with respect to Claim 1.

Claim 2:

Applicants respectfully traverse the rejection of Claim 2, because the cited passage relates to “a host computer or a network router,” and not an interface device operatively coupled to an internal bus of an origin server. It would not make sense for a host computer to receive and buffer a communication from itself.

Claims 3 and 13:

Applicants respectfully traverse the rejection of Claims 3 and 13, because the cited passages do not disclose accumulating separate transmissions received from the client via a network connection in said buffer. The cited passages merely indicates that the Java Virtual Machine includes volatile and nonvolatile memory.

Claim 4:

Applicants respectfully traverse the rejection of Claim 4, because the cited reference does not disclose waiting until a complete client request is accumulated in said buffer before establishing said bus connection with said server. Indeed, the cited reference does not disclose establishing a bus connection with a server at all, and certainly does not disclose the timing of connections with respect to the accumulation of a complete client request.

Claims 5 and 8:

Applicants respectfully traverse the rejections of Claims 5 and 8, because the cited reference does not disclose receiving a response to said client communication from said server via said bus connection and forwarding said response to said client via said network connection. As indicated above, the Java Virtual Machine 402 communicates with secure processor 424 via a network connection, not a bus connection.

Claims 6 and 9:

Applicants respectfully traverse the rejections of Claims 6 and 9, because the cited reference does not disclose storing a response received from a server via a bus connection in a buffer.

Claims 7 and 10:

Applicants respectfully traverse the rejections of Claims 7 and 10, because the cited reference does not disclose a method wherein a step of receiving a response from a server includes terminating a bus connection with the server after the response is received. Rather, the cited passage merely indicates that the Java Virtual Machine can respond to requests from the host machine if it detects that there is no longer a valid network connection. This is not the same as terminating a bus connection upon receipt of a response to free up bus connections.

Claims 11 and 19:

Applicants respectfully traverse the rejections of Claims 11 and 19, because the cited reference does not disclose receiving an HTTP request from a client via a network connection and forwarding the HTTP request to a server via a bus connection.

Claim 12:

Applicants respectfully traverse the rejection of Claim 12, because the cited reference does not include receiving an HTML page from a server via a bus connection.

Claim 15:

Applicants respectfully traverse the rejection of Claim 15, because it is not well known in the art to allow a maximum number of simultaneous client connections that exceeds the maximum number of simultaneous server connections. Although Applicants agree with the Examiner that it is known in the networking art to provide simultaneous connections, it does not follow that it is known to provide a greater number of client connections than server connections. If the Examiner disagrees, Applicants respectfully request that prior art establishing the asserted fact be made of record.

Claim 16:

Applicants respectfully traverse the rejection of Claim 16, because the cited reference does not disclose performing a security operation on a client communication prior to forwarding the client communication to a server via a bus connection.

Claim 17:

Applicants respectfully traverse the rejection of Claim 17, because the cited reference does not disclose discerning an application identifier from a client communication received via a network connection, and invoking one of a plurality of proxy applications based on said identifier to forward the client communication to a server via a bus connection.

Claim 18:

Applicants respectfully traverse the rejection of Claim 17, because the cited reference does not disclose discerning a port number from a client communication received via a network connection, and invoking one of a plurality of proxy applications based on said port number to forward the client communication to a server via a bus connection.

Claims 20-38:

Claims 20-38 are distinguished from the cited prior art for at least the reasons provided above with respect to Claims 1-19.

Claim 39:

With respect to Claim 39, the Examiner writes further:

5 Stern discloses ... *a network controller for communicating with clients on said network* [see Stern, item 412] *and a memory device for storing data and code* [see Stern, item 404], *said code including a proxy application* [see Stern, Figure 7] *and a processing unit coupled to said memory device for executing said code* [see Stern, item 401] *and a protocol adapter coupled to said processing unit, and adapted to couple to said internal bus, for communicating with said server* [see Stern, item 416, item 702, 10 708].

Applicants respectfully traverse. Initially, as pointed out above, Stern does not disclose an adapter card coupled to the bus of a server. Rather, the Java Enabled Network Interface Device 401 of Stern is coupled to local bus 430 of a host computer 405, which is more fairly 15 characterized as a client machine than a server.

Applicants are aware that it may sometimes be difficult to characterize a particular machine as a server, as a client, etc. Therefore, Claim 39 is amended herein to clarify this distinction, and now recites (in part): "An adapter card for operatively coupling to an internal bus of an origin server for managing origin server communication with a network ...". Further, 20 the origin server limitation of the preamble is recited in the body of Claim 39.

For at least the above reasons, Applicants respectfully assert that Claim 39 is distinguishable over the cited reference, and respectfully request reconsideration and withdrawal of the 35 U.S.C. §102(a) rejection of Claim 39. Claims 40-47 depend, either directly or indirectly from Claim 39, and are therefore allowable over the cited reference for at least the 25 reasons provided above with respect to Claim 39.

For the above reasons Applicants request reconsideration and withdrawal of the rejections under 35 U.S.C. § 102.

Rejections Under 35 U.S.C. § 102 and §103

30 Claims 1-47 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,115,755 (Krishan) in view of U.S. Patent No. 5,867,652 (Hurvig). Further, Claims 39-47 are rejected under 35 U.S.C. §102(e) as being anticipated by Krishan.

Applicants respectfully traverse.

Forward and Reverse Proxy Servers

5           Claims 1-47 of the present application are distinguished from the cited references in that  
Claims 1-47 are directed to a “reverse proxy server” and method, whereas Krishan is directed to  
a “forward proxy server.” The terms “forward proxy server” and “reverse proxy server” are well  
known in the art. For example, Ari Luotonen, *Web Proxy Servers* (Prentice Hall, 1997), which is  
incorporated in Applicants’ specification by reference distinguishes the terms (at Page 326) as  
10 follows:

          The word “reverse” in “reverse proxy” refers to the  
inverted role of the proxy server. In the regular (forward) proxy  
scenario, the proxy server acts as a proxy for the client: the request  
is made on behalf of the client by the proxy server. However, in  
15 the reverse proxy scenario, the reverse proxy server acts as a proxy  
for the server: the proxy services requests on behalf of the server.  
While this may look like the same thing expressed in two different  
ways, the distinction becomes clear when considering the  
relationship of the proxy server to its client(s) and origin server(s).

20           A forward proxy server or a set of them act as a proxy to  
one or more clients. From the client’s perspective, the proxy  
server is dedicated to servicing that client’s needs, and all requests  
may be forwarded to the proxy server [1]. A given client will use  
the same proxy server over a period of time, and the proxy  
25 configuration is dependent on the site where the client is running.  
Forward proxy servers are usually run by the client organization  
itself, or an Internet service provider. Forward proxy servers are  
fairly close to the client.

30           A reverse proxy server, on the other hand, represents one or  
a few origin servers. Random servers cannot be accessed through  
a reverse proxy server; only the predetermined set of files—those  
available from the origin server(s) that the proxy is a proxy for—  
are available from the reverse proxy server. A reverse proxy  
server is a designated proxy server for those servers—and it is used  
35 by *all clients* for access to the specific site that it is servicing. A  
reverse proxy server is usually run by the same organization that  
runs the main origin server that the proxy is a reverse proxy for.

The foregoing passage makes it clear that reverse proxy servers are not simply forward  
proxy servers run backwards, as their names might incorrectly imply. Rather, forward and

reverse proxy servers have very different functions, and their respective configurations depend on very different considerations. Accordingly, features that provide advantages in forward proxy servers would not necessarily provide the same advantages in a reverse proxy server, and it would not, therefore, be obvious to one of ordinary skill in the art to include such features in a reverse proxy server.

The Krishan reference is directed to a forward proxy server. In particular, card 60 of host computer 50 forwards communications to and receives responses from origin servers on the Internet on behalf of computers 52. The Hurvig reference does not appear to relate to proxy servers at all. In contrast, the claimed invention is directed to a reverse proxy server.

Applicants believe that original Claims 1-47 distinguish over a forward proxy server. Nevertheless, Applicants have amended Claims 1 and 39 to clarify this distinction. For example, Claims 1 and 39 now recite "origin server." The meaning of the term "origin server" is well known in the art to include any server that is hosting the resource (i.e., the data) that the client is requesting. Additionally, Claim 39 is amended herein to explicitly recite "a reverse proxy application."

For at least the above reasons, Applicants respectfully request withdrawal of the rejections of Claims 1-47 under 35 U.S.C. §103 over Krishan in view of Hurvig, and the withdrawal of the rejections of Claims 39-47 under 35 U.S.C. §102(e) over Krishan.

Double Patenting:

Claims 1 and 39 are rejected under the judicially created doctrine of double patenting over claims 1, 15, 43, and 49 of U.S. Patent No. 6,308,238. The Examiner writes:

It would have been obvious to one of ordinary skill in the networking art at the time the invention was made for one to have included allocating an input buffer to said client connection if said communication includes a data request, and storing said data request in said allocated buffer space as well as allocating an output buffer to store a response from said origin server, only after a complete data request has been received, since Serial No. 09/408,608 does provide all of these features within the application.

Applicant respectfully traverses.



This application was filed on September 24, 1999. Application serial number 09/440,016 was filed on November 12, 1999 as a continuation-in-part of the present application, and issued as U.S. Patent No. 6,308,238.

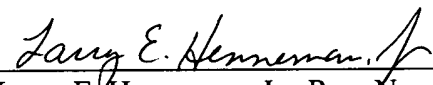
The only rational provided for the Examiner's obviousness conclusion is that "Serial No. 09/408,608 does provide all of these features within the application." However, contrary to the Examiner's assertion, the particular buffer allocation scheme of the '238 patent is not disclosed in the present application. Indeed, the CIP application was filed specifically to disclose and claim the inventive buffer allocation scheme improvement, and the patentability of that buffer allocation scheme was expressly argued in the CIP application.

For the above reasons, Applicants respectfully request reconsideration and withdrawal of the double patenting rejections of Claims 1 and 39.

For the foregoing reasons, Applicants believe Claims 1-47 are in condition for allowance. Should the Examiner undertake any action other than allowance of Claims 1-47, or if the Examiner has any questions or suggestions for expediting the prosecution of this application, the Examiner is requested to contact Applicants' attorney at (269) 279-8820.

Respectfully submitted,

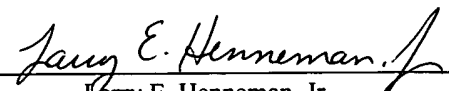
Date: 4/2/03

  
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**CERTIFICATE OF MAILING (37 CFR 1.8(A))**

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, DC 20231.

Date: 4/2/03

  
Larry E. Henneman, Jr.

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

1           1. (Amended) [A] In an interface device operatively coupled to an internal bus of an  
2 origin server, a method for managing connections between at least one client and [a] said origin  
3 server, said method comprising the steps of:

4           establishing a network connection with one of said clients via a network;  
5           receiving a communication from said client via said network connection;  
6           establishing a bus connection with said origin server via an internal bus of said server;  
7           and  
8           forwarding said client communication to said origin server via said bus connection.

1           39. (Amended) An adapter card for operatively coupling to an internal bus of an origin  
2 [a] server [with an internal bus to] for managing origin server communication with a network,  
3 said adapter card comprising:

4           a network controller for communicating with clients on said network;  
5           a memory device for storing data and code, said code including a reverse proxy  
6           application;  
7           a processing unit coupled to said memory device for executing said code; and  
8           a protocol adapter coupled to said processing unit, and adapted to couple to said internal  
9           bus of said origin server, for communicating with said origin server.

Respectfully submitted,

Date: 4/2/03

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